



**STRATEGIC PLAN
FOR
THE NEXT GENERATION OF TRAINING
FOR
THE DEPARTMENT OF DEFENSE**

September 23, 2010

Office of the Under Secretary of Defense (Personnel & Readiness)
Readiness and Training Policy and Programs

Report Documentation Page			Form Approved OMB No. 0704-0188	
<p>Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.</p>				
1. REPORT DATE 23 SEP 2010	2. REPORT TYPE	3. DATES COVERED 00-00-2010 to 00-00-2010		
4. TITLE AND SUBTITLE Strategic Plan for the Next Generation of Training for the Department of Defense			5a. CONTRACT NUMBER	5b. GRANT NUMBER
			5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)			5d. PROJECT NUMBER	5e. TASK NUMBER
				5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Office of the Under Secretary of Defense (Personnel & Readiness), Readiness and Training Policy and Programs, 1 010 Defense Pentagon, Washington, DC, 20301-1010			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSOR/MONITOR'S ACRONYM(S)	
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited				
13. SUPPLEMENTARY NOTES				
14. ABSTRACT				
15. SUBJECT TERMS				
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 43
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified		



DEPUTY SECRETARY OF DEFENSE
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WASHINGTON, DC 20301-1010

SEP 23 2010

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
UNDER SECRETARIES OF DEFENSE
COMMANDERS OF THE COMBATANT COMMANDS
ASSISTANT SECRETARIES OF DEFENSE
DIRECTORS OF DEFENSE AGENCIES

SUBJECT: Updated Strategic Plan for the Next Generation of Training for the DoD

Based upon guidance in the Strategic Planning Guidance for FY 2008-2013 and the findings of the Quadrennial Defense Review 2010, the Under Secretary of Defense for Personnel and Readiness, in collaboration with the Secretaries of the Military Departments, the Chairman of the Joint Chiefs of Staff, the Combatant Commands, and the Under Secretaries of Defense, has revised the Department's training strategy to advance the transformation of training and education of the Total Force.

The Strategic Plan for the Next Generation of Training for the DoD, as the fourth iteration, emphasizes the need to:

- Train to a balanced force;
- Institutionalize training for Irregular Warfare and non-doctrinal capabilities;
- Sustain processes that incorporate lessons learned and anticipated into training;
- Train to individual and unit adaptability; and
- Establish a single DoD Chief Learning Officer.

In that regard, addressees shall implement the training actions identified in the Strategic Plan for the Next Generation of Training for the DoD. The Under Secretary of Defense for Personnel and Readiness, working with the DoD Training Transformation Executive Steering Group and Senior Advisory Group, will continue to oversee implementation of the Strategic Plan.

I commend you for the progress each of you has made toward better enabling integrated operations and challenge you to sustain the initiative.



OSD 10227-10



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1.0. PURPOSE AND SCOPE

"As capable as our joint forces are today, this will not be enough to meet future challenges. We will need to select, educate, train, equip and manage our people differently."

—Admiral Michael Mullen¹

1.1. Purpose.

This document provides strategic guidance that:

- Sets the conditions for revolutionary advancements in training through a cultural change supported by training, education and experience.
- Aligns the efforts of the Department of Defense (DoD) training enterprise to address the implications for the future joint force suggested by the *Capstone Concept for Joint Operations* (CCJO), the *Joint Operating Environment*, the *Quadrennial Defense Review - 2010*, *Guidance for the Employment of the Force*, *Defense Planning and Programming Guidance*, the National Military Strategy, and outlines integration and touch points for the education community.
- Establishes structure for training with interagency, intergovernmental, non-governmental and multinational partners in support of integrated operations.²
- Adapts the training and education strategy based on lessons learned and anticipated.
- Acts as a catalyst to challenge the status quo where needed to enable adaptive change.

1.2. Scope.

- Strategic Guidance. This document is established as a foundational plan for use by DoD Components. It is designed as strategic guidance for the federated training community staffs and their 3-Star level General, Flag, and Civilian leadership. It is the fourth iteration of the plan since 2001 and serves as a link between the operational requirements in the documents outlined

¹ The *Capstone Concept for Joint Operations*, v3.0 (Washington D.C., Department of Defense, 2009) p. iv.

² Integrated operations. The synchronization, coordination, and/or integration of DOD and other U.S. Government agencies activities, in coordination with partner nations, and non-governmental entities across the full range of military operations, which achieves a comprehensive approach that advances U.S. Government goals and objectives.

above and supporting training initiatives. The intent is to delineate a path ahead for fostering a revolution in training. There have been two training revolutions over the last forty years. The first was the development of large scale ranges that allowed large force exercises and high fidelity conflict simulation in the late 1970s, early 80s. The second resulted from the September 11, 2001 events and our involvement in the two wars of the early 21st century. This second training revolution has leveraged information technology that has regularly facilitated battlefield lessons being integrated into warfighter training within hours of it taking place in theater. In this strategic plan, we posit that a “third revolution” will be driven by the dual engines of powerful new training technologies and adaptive pedagogy that will fundamentally change how DoD Components train day-to-day at home station.

The plan is directive. However, it is not all inclusive or a substitute for innovation. Additionally, it recognizes the competing nature of resources within DoD Components and understands that corporately, Components may have to override directives in this plan to address higher priority needs.

- Context. This strategic plan acknowledges the great strides in training that have been made by all the DoD Components. These organizations have produced the finest trained and most effective fighting force in the world. Building on these achievements, this document serves as a catalyst to sustain and grow our training superiority and to stimulate the development of new initiatives unforeseen by this plan to ensure the total force remains relevant, agile and adaptive. This document recognizes there is convergence among the diverse capabilities of the DoD federated training enterprise and seeks to reinforce and accelerate this convergence. Each has come to recognize that cooperation and collaboration are key aspects to responding effectively to challenges while operating in the current and anticipated tightly resourced environment of the coming years. The strategy plan is an inclusive and collaborative document that will be reviewed every two years to maintain relevance. The working timeline is the Future Years Defense Program (FYDP). An essential assumption is that all training paradigms are meant to be questioned regularly for validity. Key throughout the document is adaptation. This is not merely a desired trait, but rather it is essential. Failure to adapt quickly to the changing nature of warfare risks reduction in capability and force superiority.
- Training Investment Guidance for the Training Transformation (T2) Components. Attached at Annex A is specific training investment guidance for the T2 components. This guidance is directive in nature and must be accomplished with sound operational and fiscal risk analysis.

2.0. THE MILITARY TRAINING PROBLEM

In order to sustain operational and training superiority, the DoD must be able to effectively and efficiently prepare future training audiences with limited fiscal, time, material, and personnel resources:

- For full spectrum operations anywhere in the world.
- To operate with a more diverse set of coalitions, alliances, and partners.
- To operate with other federal agencies, state and local governments, non-governmental organizations, private voluntary organizations, industry, and academia.
- Using technologies and techniques that support geographically unconstrained training.
- To synchronize new operational capabilities that rapidly incorporate tactics, techniques, procedures, and lessons learned/anticipated.
- To maintain competency against a traditional enemy while actively fighting a complex, elusive and adaptive adversary who uses available technology, advanced weapons, weapons of mass destruction (WMD), and information to gain advantage.

Further, the CCJO envisions a future operating environment characterized by uncertainty, complexity, rapid change and persistent conflict.³ It identifies five broad national security challenges likely to require the employment of joint forces in that environment—winning the Nation’s wars, deterring potential adversaries, developing cooperative security, defending the homeland and responding to civil crises—and suggests that any mission a joint force receives likely will be a response to one or more of these challenges. The document summarizes the overall challenge facing U.S. forces in the future thus:

Accordingly, tomorrow’s joint forces must be prepared to deal with all these challenges, anywhere in the world, potentially on short notice and for indeterminate duration, in response to unexpected events. The specific time, location, and form of any particular challenge will be practically impossible to predict, at least in time to develop forces specifically for that threat. Any of these challenges is likely to require joint forces to project and sustain military power over global distances and for significant durations. Moreover, each challenge will tend to evolve over time. Finally, preparing for any one challenge will not necessarily prepare joint forces for another.⁴

³The Capstone Concept for Joint Operations, v3.0 (Washington D.C., Department of Defense, 2009) p. 2.

⁴Ibid. page 11-12.

The essential problem for training is how to prepare U.S. Armed Forces and DoD civilians who deploy in support of them, to meet a diverse set of challenges through varying combinations of combat, security, engagement, and relief and reconstruction activities in what is widely expected to be a resource-constrained environment.

Several factors significantly affect addressing the training problem. Most significant today are the scale and tempo of current operations, which continue to dominate training availability, manpower, and infrastructure. Both active and reserve component units have continual operational deployments abroad, with short turn-around times. While this creates a force honed in the skills of irregular warfare, other warfare or operation areas are under-exercised. Repeated deployments have taken a toll on equipment, unit and personnel readiness, creating additional training burdens.

Not only are U.S. forces deploying more often, they are experiencing an increasingly diverse range of missions when they do. This means a greater range of competencies to train toward, compounding the dilemma described above. In addition, civilians are deploying to theater at an increasing rate. The success of civilians in supporting the mission and their ability to team with their military counterparts while in theater requires a training and development approach that is as thorough as their military counterparts.

Limits and constraints on training resources further exacerbate this dilemma. As current operations, major materiel acquisitions and personnel related expenses continue to consume an increasing portion of defense budgets, funding for training will face significant budget pressures. Training facilities and other resources may often be underfunded, especially in relation to the increased demand described above. Meanwhile, competing demands for air, ground and maritime maneuver space, the growing reach of sensors and weapons, and environmental constraints on the use of existing ranges and maneuver areas increasingly challenge our ability to conduct live training, especially on a large scale.

Another challenge is preparing the force to operate with an increasingly diverse number of partners. The CCJO argues that the future operating environment will require U.S. forces to operate in conjunction with DoD civilians, other U.S. Government agencies, foreign militaries and other agencies, non-governmental organizations, and contractors.⁵ The ability to cooperate effectively with so many different partners imposes challenges in information sharing and creating the right conditions for training and education.

Another significant issue for training is the changing demographics of the people who make up the U.S. Armed Forces, especially with respect to generational differences, culture, ethos and attitudes toward emerging technologies. Like society at large, the DoD is transitioning from an analog to a digital culture, and many training curricula, techniques and technologies have yet to make that transition. The young people who

⁵Ibid. page 1and 7.

make up the force are, largely, products of the digital age, with attitudes toward the use of technology and ways of interacting with it and each other that differ profoundly from the attitudes and behaviors of their predecessors. The DoD training and education enterprise has not fully acclimatized to personnel changes associated with these changing societal demographics.

The rate of technological and operational change also impacts training. Development of training capabilities often lag behind technological advances, and by the time advances in training are fully fielded, some of the fielded technology is obsolete or the training capability lags the evolving capabilities of the associated system. Likewise, operating concepts, evolving rapidly to keep up with the changing operating environment, may outpace the complementary training capability.

In summary, the DoD training enterprise must prepare the total force to accomplish an increasingly diverse and complex set of missions that demand an ever-changing combination of combat, security, engagement, and relief and reconstruction activities. Numerous factors make this extremely challenging, not least of which are the combination of increasing operational demands and decreasing resources, and rapid and fundamental changes in operational and training technologies.

3.0. THE DEPARTMENT OF DEFENSE TRAINING CONCEPT

3.1. Central Strategic Idea.

The readiness of a balanced total force can only be achieved through a balanced approach to training. Training on foundational technical skills, tactics, techniques and procedures is crucial. However, mission specific skills such as combat hunting or training to hone cognition, adaptability, team cohesion, empathy, culture and language are equally crucial. To achieve these objectives we must leverage emerging technologies to enhance our training capabilities, we must be relevant, our forces must be agile and adaptive, and we must anticipate and rapidly incorporate lessons learned. We can no longer depend solely on training programs and capabilities developed and managed in mutual isolation. We must sustain the uniqueness that each Service brings to the table and our training regimens must facilitate the development of an agile and adaptive force. From an investment and intellectual perspective; we must emphasize convergence, harmonization, unity of effort, and common organizational understanding. These aspects are essential to responding to ever tightening fiscal environments; increasing competition for air, land and maritime training resources, and enduring conflict.

3.2. Key Training Principles.

Consistent with these underlying convictions, DoD training strategy development and implementation planning reflects five key training principles:

- First, it must enable relevant innovation that takes advantage of other developmental efforts;
- Second, it must produce a learning organization that senses change and that adapts rapidly to new environments;
- Third, it must encourage openness and transparency;
- Fourth, it must help create a culture that is enterprise-centric, outcome-focused, and encourages and rewards interdependence; and,
- Finally, it must create and leverage trust among the DoD federated training enterprise.

3.3. Essential Features of a Technology-Based Training Environment.

Satisfying those principles presumes implementation of a federated training environment to which each DoD Component contributes specific portions that collectively replicate the complexity of the operating environment, and that can be used alone or interactively in near-real time with live, virtual, and constructive platforms. Training technology must be native to the training audience. The recruiting pipeline is populated by digital natives, with an expectation of a multi-media rich training environment with evolving learning and communication technologies. This environment must be technologically intuitive, agile, and globally accessible 24/7. The long-term objective is to produce an immersive training environment that stimulates cognition, intuition, innovation and adaptive thinking, and hones complex decision-making skills. Because DoD is a global enterprise, access to that environment should be persistently available via the Global Information Grid (GIG)⁶ to the full range of users. However, given the potential for access to the GIG and other communication technology to be degraded or denied through cyber attacks, GPS degradation or destruction, communications jamming and other types of cyber warfare, the Enterprise must ensure that training capability is preserved despite the loss of the GIG. Additionally, the ability to operate effectively in such conditions is an essential skill that must be trained to. Therefore to support the range of training objectives to which it will be applied, the immersive training environment must:

- Achieve sufficient level of technical and operational realism.
- Use common applications, references and operational capabilities.
- Be rapidly scalable (small team to joint task force (JTF)) and composable by users without the need of specialized or proprietary skills.

⁶ **Global Information Grid (DOD)** - The globally interconnected, end-to-end set of information capabilities, associated processes and personnel for collecting, processing, storing, disseminating, and managing information on demand to warfighters, policy makers, and support personnel. The Global Information Grid includes owned and leased communications and computing systems and services, software (including applications), data, security services, other associated services and National Security Systems. Also called the GIG. *DOD Dictionary of Military Terms*, <http://www.dtic.mil/doctrine/jel/DODdict/data/g/11495.html> [accessed 15Oct09].

- Synchronize live and virtual training operations in near-real time to enable realistic stimulation of sensors, replication of visual cues, and platform interactions between live, virtual and constructive participants.
- Provide focused training to improve the performance of small teams, allowing the exercise of distributed operations at increasingly lower echelons and developing their proficiency in the use of net-centric information.
- Support full-spectrum operations to include: information, cyberspace, nuclear, missile defense, and space
- Support civil affairs, language, culture and other human, social and behavioral skill requirements appropriate to a designated region.
- Be sufficiently interoperable with interagency and multi-national partner capabilities to permit combined and whole-of-government/nations training.
- Conduct automated audit of the performance of users in key learning objectives, enabling rapid development and display of highlighted areas for instructor use in debriefings and after-action reviews.
- Support training in a degraded cyber/information technology environment

3.4. Major Training Requirements.

All joint forces are designed, organized, equipped, and trained to execute one or more of four broad types of military activities. The CCJO identifies these four activities as: combat, security, engagement, and relief and reconstruction. These are the basic building blocks from which joint operations are constructed. [Most] will require some combination of two or more of these activities arranged and weighted to accomplish the mission.⁷

Any DoD training strategy must focus on producing success in the actual activities military forces and those who support them are expected to perform. The training environment, however, should be universal. Preparing for all activities must be addressed as a training continuum, from training of the individual, the small team, the unit, functional component, JTF and the combatant command. To be successful, DoD's training strategy must recognize and reconcile those requirements driven by activities outlined below.

3.4.1. Combat. Although the fundamental aim of armed combat—to destroy an enemy's will and ability to fight—hasn't changed, the past several decades have seen significant changes in military technology, battlefield transparency, and especially for U.S. military forces, the sociological and political constraints within which combat operations must be conducted.

⁷ The *Capstone Concept for Joint Operations*, v3.0 (Washington D.C., Department of Defense, 2009) p. 14. Emphasis added.

3.4.2. Security. Recent experiences have revitalized awareness of the importance and challenges of security activities, which seek to protect and control civilian populations, territory and resources—friendly, hostile or neutral. Security missions cannot be assigned to a relatively few special-purpose units, but must be considered a core competency of all U.S. general purpose forces, which establishes widespread training implications. American forces may be called upon to perform security operations both at home and abroad. Security operations abroad are governed during organized hostilities by theater rules of engagement and, following such hostilities or in their absence, by formal agreement with host nation governments. In either circumstance, security activities impose special requirements and restrictions on the total force, some in direct competition with combat requirements and thus imposing unique training challenges.

3.4.3. Engagement. Engagement activities involve cooperation with and assistance to allied and other military partners. Because they are governed by the requirements, permissions, and restrictions established by partner governments and, except during actual hostilities, are heavily regulated by U.S. law, engagement activities presume close and continuous coordination with the country team and other U.S., foreign, and non-governmental agencies involved in the advisory or assistance effort.

3.4.4. Relief and Reconstruction. Historically, U.S. military capabilities to conduct relief and reconstruction overseas were an automatic byproduct of their proficiency in routine military functions such as logistics, transportation, engineering, and medical services. In recent years, however, the military has come to increasingly rely on contracted services to perform many of those functions. While freeing military resources to concentrate on tactical operations, increased reliance on civilian contractors also has imposed new training challenges.

3.5. Training Integration.

Current operational concepts recognize that the activities just described will rarely occur separately. In almost all cases, two or more activities will be taking place simultaneously, and those combinations can be expected both to differ geographically and change over time. Training for them, therefore, must include practice in integrating and adapting those activities to each other and a changing situational context. Such training will require the construction of realistic, multi-faceted exercise environments, together with the ability to alter those environments both in response to the actions of training audiences and to permit injection of the sorts of unanticipated challenges presented by today's complex operating environment. Specific requirements include:

3.5.1. Linking and aligning individual DoD Component training, integrating capabilities, agencies and exercises into comprehensive events which are ongoing, one building sequentially on the other throughout the training cycle.

3.5.2. Synchronizing DoD Component training among Services, combatant commands, the DoD civilian community and other federal, state and local agencies, non-governmental organizations, and multinational partners.

3.5.3. Continuing the gains made by the Services in the areas of synchronization of unit deployment schedules, aligning the pre-deployment preparations of units that will operate together in the area of operations. As an alternative, develop comprehensive training events with units of *similar* capabilities with those with which they will operate in theater, in order to establish a –~~habitual~~ training template.” Include civilians who will be deployed with the unit in this training, whenever and wherever possible.

3.5.4. Accommodating the differing time scales associated with combat, security, engagement, and relief and reconstruction. In general, the time scale of combat missions tends to be shortest—often only days or weeks, but sometimes months. Security, relief and reconstruction time scales tend to be much longer. The time scale of most engagement activities tends to be longest of all, often years. Training exercises must find a way to incorporate all four activities in ways that do justice to their different time scales, possibly by incorporating combat scenarios into longer-running security, relief and reconstruction, and engagement scenarios in the federated training environment.

3.5.5. Training for rapid operational transitions. The balance among the four military activities can change radically and repeatedly as the operational situation changes, requiring the force to reorient itself quickly to new missions and conditions. Because ultimate success may depend on how quickly the force can adapt to these changes, training must enable a force prepared initially to conduct one activity to transform itself rapidly into a force prepared to conduct another activity. For example, from a force honed for combat into a security force, or vice versa.

4.0. TRAINING FOCUS AREAS

The CCJO identifies the implications of our operational concepts on the way the Services organize, man, train and equip the units that are intended to become elements of a joint force. Based on the seventeen implications in the CCJO, this section identifies training focus areas. It is not an *in toto* delineation of all areas, but is meant as foundational guidance. DoD Components must balance compliance with this document with operational priorities and risk. The areas outlined below are arrayed in the order the CCJO listed them.⁸

⁸ The *Capstone Concept for Joint Operations*, v3.0 (Washington D.C., Department of Defense, 2009) p. 28-35.

4.1. Build a balanced and versatile joint capable force.

4.1.1. Focus developmental technology investments on training capabilities that can effectively train our forces to standards and under the relevant conditions of their intended/probable employment in less time.

4.1.2. Examine training constructs to eliminate any unnecessary redundancy, and focus training on foundational skills with specialized training only as required by the specific joint mission taskings assigned by the Combatant Commanders (CCDR).

4.1.3. Integrate live, virtual, and constructive capabilities and extend high-fidelity, major training venue-like joint training capabilities to home station. The right mix will be dependent on the mission set, available training time, affordability, training task and objectives, and required proficiency.

4.1.4. Continue to develop and institutionalize ~~in-lieu-of~~⁹ training and training for individual augmentees, contractors, the Civilian Expeditionary Workforce, and non-doctrinal units acknowledging that these methods are bridges to fully integrated joint training.

4.1.5. Train for operations in diverse environments such as: high-altitude, cold, hot, jungle, etc.

4.1.6. Train in the art of deception in both planning and mission operations.

4.1.7. Train to degraded cyber operations.

4.2. Improve knowledge of and capabilities for waging irregular warfare.

4.2.1. Build immersive training environments. Key attributes may include:

- Replication of a nonlinear, noncontiguous operating environment.
- A wide range of demographics, infrastructure, governance, media, and culture, to include failing or failed states (specific regions/countries as prioritized by the *Guidance for Employment of the Force*).
- Enables simultaneous application of hard¹⁰ and soft¹¹ power with representative effects.

⁹ “**In-lieu-of**” training. Training driven by: (1) a sourcing requirement to perform missions outside of traditionally assigned roles and functions for a Service; (2) an operational requirement outside the normal scope of duties for an individual, unit, or staff when there is no organic Service capability to fulfill the requirement; or (3) a training venue offered by another DOD Component that meets a sourcing requirement. DODD 1322.18, “Military Training,” January 13, 2009, p. 2.

¹⁰ Hard power - power obtained from the use of military and/or economic action to influence the behavior or interests of others. .i.e. force.

- Full range of scalable adversaries, including nation-state, non-state, and hybrid.
- Cognition-based immersive training environment that is fast paced, of sufficient duration to induce fatigue, and conducted in a controlled environment that allows for on-the-spot correction or a detailed debriefing of training audience performance (for both soft and hard skills). This immersive training environment must be institutionalized in order to build collective small team self-awareness, resilience and confidence in decision making under stress.
- The debriefing system should have a live audio and video replay capability of the training event synchronized with a digital representation of individual or unit action so that the observer-trainer can isolate and freeze specific actions or events. Both the live video and audio capture and the digital representation must be reproducible, searchable and archivable.

4.2.2. Train to the application of soft power to all echelons. Emphasize small team capability.

4.2.2.1. Conduct research and implement training regimens that enhance the performance of small teams.

4.2.2.2. Specific small team cognitive decision making traits requiring training include: police-like intelligence capabilities, biometrics, “human terrain” analysis, cultural interactions, and negotiation skills.

4.2.3. Train to the skills necessary to win the “battle of the narrative.”¹²

4.2.4. Train to the proper use of lethal effects in an irregular fight, focusing on the application of air power and indirect fire support.

4.2.5. Train to development, governance, and rule-of-law skills in a medium- and high-threat environment.

4.2.6. Train culturally relevant consequence management.¹³

¹¹ Soft power - the ability to obtain what you want through co-option and attraction (i.e. diplomacy, culture and historical influences). The phrase was coined by Joseph Nye of Harvard University in a 1990 book, *Bound to Lead: The Changing Nature of American Power*. He further developed the concept in his 2004 book, *Soft Power: The Means to Success in World Politics*. Secretary of Defense Robert Gates spoke of the need to enhance American soft power by "a dramatic increase in spending on the civilian instruments of national security- diplomacy, strategic communications, foreign assistance, civic action and economic reconstruction and development." [Landon Lecture (Kansas State University), November 26, 2007]

¹² Battle of the narrative - the use of dialogue, media, the internet and other information dissemination capabilities to communicate a desired perspective with the objective of gaining support for your point of view or to counter differing views.

¹³ Consequence management- actions taken to maintain or restore essential services and manage and mitigate problems resulting from disasters and catastrophes.

4.3. Improve knowledge of and capabilities for nuclear warfare and operations in chemical, biological, radiological and nuclear environments.

4.3.1. Education and training should enhance knowledge and skill development across the full spectrum of the eight chemical, biological, radiological, nuclear, and high yield explosive (CBRNE) missions¹⁴ (covering both nation and non-nation state actors):

- Offensive operations (as directed by the President)
- Elimination operations
- Interdiction operations
- Active defense
- Passive defense
- WMD consequence management
- Security cooperation & partnership activities
- Threat reduction cooperation

4.3.2. Develop immersive, virtual/constructive training capabilities to exercise WMD consequence management procedures. Focus on fully scalable “first responder” skills.

4.3.3. Conduct national-level exercises in which the training objective is to plan and implement accountability actions against either a nation state and/or a non-nation actor for a catastrophic nuclear terrorist attack on the U.S. homeland.

4.4. Improve knowledge of and capabilities for security, engagement, nation building, and relief and reconstruction activities.

4.4.1. Train to development, governance, economic, and rule-of-law skills in a low to medium threat environment.

4.4.2. Train and exercise to “first response” skills for disaster relief. This includes self-sufficient operation in an austere, low to medium threat environment; aerial, port, hub-and-spoke logistics in the disaster area; cross-cultural negotiation; and working with national and local governments as well as host nations in times of emergency.

4.4.3. Train and exercise to the skills to perform Security Force Assistance (SFA). This includes proficiency in functional or job skills, language and cultural, empathy, rapport building, advising, coaching, mentoring, and feedback and assessment.

¹⁴ *National Military Strategy to Combat Weapons of Mass Destruction*, (Washington D.C., Department of Defense, 2006) P. 5-6.

4.4.4. For nation building tasks, focus training on how best to choose the right projects to maximize community benefit and project efficacy and understanding and dealing with community dynamics. Look for training opportunities to leverage community projects in the local area and/or *Emergency Economic Stabilization Act of 2008* projects.

4.4.5. Develop and implement a training course in support of the Under Secretary of Defense (USD) for Policy's *Ministry of Defense Advisors* program and USD for Personnel and Readiness' Civilian Expeditionary Workforce.

4.5. Renew emphasis on and understanding of strategic deterrence, including nuclear deterrence.

4.5.1. Train to the objectives of strategic deterrence; 1) to deter (prevent or discourage) an all-out attack on the United States or its allies; 2) to cause any possible attacker to face an unacceptable risk in the event of an attack; 3) to keep the United States and its allies politically stable and secure. Include in this training an understanding of how each of the DoD Components contribute to these objectives.

4.5.2. Train to planning and operating nuclear forces, and designing defense against nuclear attack. Train to analyze and understand foreign nuclear weapons programs, devise nuclear policies and strategies, deal with allies who depend on the American nuclear umbrella, and prevent and counter nuclear proliferation.

4.5.3. Develop a virtual/constructive training capability that exercises strategic deterrence procedures. General population modeling and key global, political, leadership responses/interaction shall be a key component of the training capability.

4.6. Create and train general-purpose forces capable of operating independently at increasingly lower echelons.

4.6.1. Organize and train in purpose-built small teams that possess the right mix of skill sets and cognitive, social and adaptive capabilities. Make all effort to sustain team integrity once formed.

4.6.2. Train to the skills necessary to maintain cognitive dominance (e.g. information superiority) in a net-centric information environment.

4.7. Maintain the capability to project and sustain military power over global distances.

4.7.1. Develop capability to exercise logistics across full spectrum operations in a global context.

4.7.2. Develop an expeditionary theater opening training capability.

4.8. Improve the ability to operate in urban environments.

4.8.1. Build an urban immersive training environment leveraging technologies such as mixed reality¹⁵ and/or virtual training capabilities.

4.8.2. Train for the use of lethal weapons in a traditional fight, focusing on the application of air power and indirect fire that achieves military objectives and minimizes non-combatant casualties.

4.8.3. Train for operations in the transition between different activities as defined in the CCJO.

4.8.4. Train for prisoner-of-war and detainee operations.

4.9. Improve capabilities and capacities for covert operations.

4.9.1. Develop training capabilities that are scalable, secure and rapidly configurable to support time-sensitive covert mission rehearsal.

4.9.2. The covert training environment must be able to support multiple, extremely sensitive classification levels.

4.10. Markedly increase language, regional and cultural capabilities and capacities.

4.10.1. Develop an education and training capability that contributes to a culturally aware and linguistically adept total force.

4.10.2. Leverage technologies to develop linguistic and cultural training capabilities.

4.10.3. Train to foundational cultural skills (including empathy, cross-culture negotiations, self reliance, securing basic needs in a foreign environment, adaptability, listening, and building trust).

4.10.4. Train to the use of interpreters. Develop course curriculum on reading culture-specific body language to judge effectiveness of statements, understanding and proper translation.

¹⁵ Mixed reality (MR) - encompassing both augmented reality and augmented virtuality, refers to the merging of real and virtual worlds to produce new environments and visualizations where physical and digital objects co-exist and interact in real time. A mix of reality, augmented reality, augmented virtuality and virtual .

4.11. Institute mechanisms to prepare general-purpose forces quickly for new mission sets.

4.11.1. Train forces in a culture of adaptability and flexibility. Foster pride, confidence and competition among units in their ability to rapidly reconfigure to new missions. Encourage free play in training including unanticipated mission set changes.

4.11.2. Train units to be constantly aware of their surroundings, recognize and take initiative on their own to transition to a new mission set.

4.11.3. Reinforce training to key foundational skills without over-specialization. Establish an appropriate balance between foundational proficiency and just in time, adaptive training to satisfy specific mission taskings.

4.12. Markedly improve the ability to integrate with other U.S. agencies and other partners.

4.12.1. Establish objectives and train to achieving unity of effort across Services, U.S. government agencies, and foreign partners.

4.12.2. Provide more opportunities for professional education exchanges between agencies and partners.

4.12.3. Link partner nations with the global exercises beyond regional combatant commander geographical alignments.

4.12.4. Engage State Department, United States Agency for International Development, United States Department of Agriculture, Commerce, Justice and Treasury as well as other Federal agencies in regional and multi-theater exercises.

4.12.5. Actively create training opportunities for integrated civil-military operations, to include nation building, relief, reconstruction, stability and homeland defense. Sustain and expand as required the integrated civil-military operations training capabilities.

4.12.6. Assist other U.S. agencies as appropriate with development of education, training and exercise programs. Leverage the Interagency Policy Committee on Reconstruction and Stabilization.

4.12.7. Advocate for an Executive Order, National Security Directive or other Presidential mandate requiring training and exercises which foster unity of effort among the Federal agencies engaged in development, diplomacy and defense.

4.12.8. Train to the interagency environment in theater.

- 4.12.9.** Train civilian and military personnel together when missions overlap.
- 4.12.10.** Identify and prioritize mutually beneficial training programs between agencies that incentivize an agency-diverse training audience.

4.13. Improve organizational solutions for protracted missions that cut across geographical boundaries.

- 4.13.1.** Conduct exercises that explore the operational design for such mission scenarios.
- 4.13.2.** Expand joint training exercise opportunities based on a scenario that cuts across multiple combatant command areas of responsibility.

4.14. Develop innovative and adaptive leaders down to the lowest levels.

4.14.1. Innovative concepts for leader development are essential to revolutionary developments within the context of training and education. Training must put students in difficult, unexpected situations, and require them to decide and act under time pressure. They must be taught how to master complex decision-making skills. It must take students out of their comfort zones. Stressing of mental capabilities and moral fiber as well as physical fitness must be continual. While maintaining focus on training fundamentals, critical and cognitive thinking, war games, and free-play exercises must become part of the range of training context. Leaders who successfully complete this high intensity education and training process must continue to be developed by their commanders. Learning cannot stop at the schoolhouse door. Education and training should nurture and reinforce a leadership style that grants greater discretion to subordinates, creates a culture that is more tolerant of errors of commission than errors of omission and rewards those who exhibit these characteristics. Train leaders to remove hierarchical command and control impediments to encourage “speed of trust”¹⁶ during operations.

4.14.2. The CCJO requires that leaders be able to operate comfortably in a decentralized organizational structure, lead in the absence of specific guidance, and understand and thrive in a chaotic environment. They also need to process a vast quantity of information rapidly and discriminate between what information is irrelevant and what is not and then make informed decisions.

4.14.3. Education and training curricula should adapt as necessary to develop and leverage new human behavioral sciences. There are several disciplines that would form the foundation for the reform of the current DoD leader education system. They include complex decision making, cognition, adaptability, cross-cultural

¹⁶ Steven M.R. Covey, *The Speed of Trust* (New York: Simon & Schuster, 2006).

understanding and negotiation, chaos theory, and cognitive readiness for commander-centric net-enabled operations.

4.14.4. Our forces must study military history as a science, carefully analyzing the decision making and strategies of great military leaders, adversaries, and organizations.

4.14.5. Provide learning incentives to individuals, across all echelons, committed to continuous learning.

4.15. Develop joint commanders who are masters of operational art.

4.15.1. Train and exercise commanders in operational art.¹⁷ Education and training objectives must develop joint commanders proficient not only in their Service-specific skills, but also those of the other Services, the Federal agencies and foreign partners.

4.15.2. Train the joint commander in complex decision-making and interpersonal skills. Commanders must be trained to visualize operational problems embedded in the context of other problems and then to develop solutions that account for the indirect effects caused by the interaction of these embedded problems. They must be trained to be proficient in the application of interpersonal skills that create a command environment of empathy, cooperation, and trust which is absolutely essential to operating effectively with the many Services, agencies, coalitions and non-governmental organizations that exists in the joint operating environment.

4.16. Develop senior leaders who are experts not only in the operational employment of the joint force, but also in the development and execution of national strategy.

4.16.1. Create optimized professional military education for the flag, general officer, and SES communities at all grades throughout their tenure. These courses must recognize the time-constrained environments in which these leaders operate. The goal is to maintain relevancy and ensure that education does not stop when they exit the War College door.

4.16.2. Educate and train military and civilian leaders to understand the interplay of diplomacy, development and defense in the execution of national strategy. Foster leaders who are masters of this interplay. Add this curriculum to professional military education. Create more opportunities for other Federal agencies to send personnel to attend professional military education. Look for

¹⁷ Operational Art - The employment of military forces to attain strategic and/or operational objectives through the design, organization, integration, and conduct of strategies, campaigns, major operations, and battles. Operational art translates the joint force commander's strategy into operational design, and, ultimately, tactical action, by integrating the key activities at all levels of war.

exchange opportunities across Agencies and Departments. Set training and exercise objectives that stress the diplomacy-development-defense interplay and reward those who manage this interplay effectively both in training and operations.

4.17. Improve Service and institutional adaptability to deal with rapid change.

4.17.1. Inculcation of adaptation skills is a critical aspect to building resilient forces for the future. There are many innovations in behavioral science that are changing the way people and systems adapt to the relentless pace of change in society today. In addition to continuing the momentum of ongoing DoD Component actions in the area of adaptability training, the federated training enterprise must be open to new ideas from outside the DoD context and integrate those that work into our training systems. See Annex B for a technical report on the concept of training to enable taking an “Adaptive Stance” and an adaptation conceptual framework.

4.17.2. Explore the development and implementation of doctrine, organization, training, materiel, leadership and education, and personnel and facilities “adaptive” initiatives that fundamentally change the way the Services are institutionally trained and potentially change their organizational constructs.

5.0. CROSCUTTING TRAINING AREAS

Together with experience, education and training are the key prerequisites of cultural change across the DoD, and thus to achieving the strategic vision of this document. Responsibility for linking and synchronizing these three processes should be vested in a single DoD Chief Learning Officer (CLO), supported by a Defense Science Board (DSB)-like advisory board focused on developing the right mix of education, training and experience. The CLO and advisory board should focus initially on “soft skill” areas such as human behavioral and cognitive sciences, complex decision making, and adaptability. In addition, to achieve the vision of this document, the Department must:

5.1. Approach training investments from a federated training enterprise perspective that acknowledges fiscal constraints, seeks investment synergy, eliminates unnecessary duplication, achieves timeliness and relevance, and leverages the investments of other agencies. Specific actions required include:

5.1.1. Establishing interdependent relationships across organizational boundaries for similar capabilities.

5.1.2. Eliminating “after the fact” interoperability solutions for training capabilities through the leveraging of new technologies¹⁸ and breaking down stovepipes to achieve an efficient yet realistic training environment founded on trust and fulfillment of commitments.

5.2. Leverage the investments of stakeholders with similar interests to include identifying common equities and opportunities for co-use, and using “best of breed” technologies across DoD Components, other Federal agencies, non-governmental organizations, industry, and academia through activities such as open forums, industry searches, open competitions, and building on existing investments.

5.3. Apply joint training resources to bridge gaps, tighten seams and function as investment catalysts for enterprise stakeholders rather than developing proprietary but redundant capabilities. In particular, traditional Title 10 Service training mechanisms must be harmonized with those of the other DoD Components.

5.4. Establish a robust, relevant requirements process across the spectrum of customers (users, providers, and headquarters), to include investing in front end analysis and supporting requirements identification activities such as:

- In-theater staff assistance and fact-finding visits.
- Analysis of lessons-learned portals.
- Periodic classified video teleconferences with theaters of operations.
- Analysis of post/mid deployment after action reports.
- Analysis of training centers’ “best practices and insights.”
- S.L.A. Marshall-style post-combat interviews.¹⁹
- Two-star level Training Symposium.
- Intelligence community forecasting.
- Exercise after action review/exercise assessment.
- Stakeholder post-training surveys and interviews.
- Annual survey of the acquisition community for emerging capabilities.

5.5. Closely link training and readiness information systems. Use systems such as the Joint Training Information Management System (JTIMS) and the Defense Readiness Reporting System (DRRS) to facilitate the identification of training deficiencies and trends, accomplish assessments of the effectiveness of training investments, measure the closing of proficiency gaps and resources, and assist with strategic communication messaging.

¹⁸ Examples include ontologies, semantic web and Service orientated architectures through the GIG and a single, global “virtual world” training environment.

¹⁹ S.L.A. Marshall-style post-combat interviews--an interview technique in which combatants are interviewed in a reporter-like fashion immediately after participating in an engagement with the enemy. This technique was developed by S.L.A. Marshall (Samuel Lyman Atwood Marshall) (July 18, 1900 – December 17, 1977) who was a chief U.S. Army combat historian during WWII and the Korean War. He is best known for his book *Men Against Fire: The Problem of Battle Command*, 1947.”

5.6. Shorten the distance between capability developers and training programs by:

5.6.1. Aligning and harmonizing Service training investment through identification and establishment of common objectives, strategic guidance and fiscal guidelines to achieve training requirements and investment unity of effort.

5.6.2. Taking action to work with the developers of operational requirements and operational resource sponsors to actively require the acquisition, development, operational test and training communities to actively work together to conserve resources, develop training capabilities and regimens before a system is fielded to improve initial operational effectiveness of new capabilities.

5.6.3. Taking action to work with the operational requirements developers and resource sponsors to treat the training capabilities of new systems with the same rigor as their operational capabilities and updating as appropriate.

5.7. Work with stakeholders to synchronize Congressional plus-ups relating to training, particularly joint training, with the federated training enterprise investment strategy, thus ensuring capabilities generated by such plus-ups are optimized to support the DoD training enterprise and compliant with DoD architectures and standards.

5.8. Develop security and cross-domain solutions. Inflexible security policies and lack of technical capabilities are seriously constraining integration of advanced weapons and platforms into training environments and development of multinational and interagency partnerships. Material and non-material solutions to security and cross domain requirements must allow effective training while protecting classified capabilities. Resolution of this issue will require:

5.8.1. Re-examination of policies governing classified material from a risk management perspective that balances the classification levels of classified capabilities against the need for the force to be proficient and confident in the planning and employment of these capabilities.

5.8.2. Revision of policies used to set the classification of capabilities to ensure periodic reassessments of classified capabilities and reduction of classification levels as capabilities mature.

5.8.3. Material solutions that put in place robust information assurance protections without penalty to effective training with the capabilities protected.

5.9. Establish persistent and flexible training communications infrastructure. Communications serve as a primary enabler to efficient training activities. Connectivity enabling integrated training will use the GIG with the objective of seamlessly supporting continuous interconnectivity of all training locations with high fidelity, secure and challenging training content.

5.10. Construct effective urban training facilities. While many facilities, particularly urban training facilities, are necessary to support core and advanced training, the Department cannot afford replications of all possible physical urban environments given their broad range of complexity and the number required to train the entire force. Simulation, particularly immersive virtual and mixed reality capabilities, must offset gaps in facility construction, and utilization of commercial/civilian facilities must be utilized.

5.11. Continue and expand the efforts of the Sustainable Ranges Integrated Product Team, and look for opportunities for interdependency with the test community. Under the Senior Readiness Oversight Council sustain and modernize training ranges by:

5.11.1. Assessing the challenges imposed by encroachment and capabilities requirements on the Department's ability to train at its ranges, operating areas, and installations; developing comprehensive plans for long-term sustainability of training resources; and implementing corrective actions through DoD and the Services to ensure training resource readiness. Of particular concern is the growing competing demand from renewable energy infrastructure on the Department's live air, land, and maritime training resources.

5.11.2. Instituting multi-tiered (e.g. national, regional, and local) coordinated outreach and partnering programs that promote sustainment of ranges and operational areas and resolution of encroachment issues.

5.11.3. Modernizing instrumentation and leveraging embedded training capabilities to expand use of synthetic entities to stimulate sensors in the live environment.

5.11.4. Mitigating limitations to and encroachment on range resources.

5.11.5. Developing means to exercise sophisticated weapon systems that cannot be stimulated by low-fidelity target sets on traditional ranges.

5.11.6. Integrating participants in live, virtual, and constructive (LVC) domains and increasing the operational realism of live training environments.

5.12. In training event planning (e.g. large force exercises), make explicit the goal to reduce event planning in scope and schedule while still maintaining core planning functions and objectives. Focus on developing tools that make the planning and execution of integrated training more efficient and flexible.

5.13 . Analyze past precedent and trends, and intelligence forecasts for emerging capabilities and assess daily intelligence products to anticipate the evolution of adversary tactics, techniques and procedures. Incorporate the outcome of such analysis into training. Sustain the outstanding processes developed by DoD Components to rapidly incorporate lessons learned into training curriculum.

6.0. METHODS OF IMPLEMENTING CHANGE

The methods outlined below are potential instruments of change for the training context. This strategic plan does not advocate any particular method or combination or mandate their use; rather they are provided for your cognizance, review and tool-set integration.

6.1. Legislative Action. Legislative action includes modification of Title 10, or separate legislation to add new or modify existing authorities. Such initiatives shall be worked in concert with DoD Legislative Affairs and General Counsel and follow established Executive Branch processes.

6.2. Executive Orders. Presidential Executive Orders, National Security Directives or other Presidential mandates provide yet another mechanism to add new or modify existing authorities. As with legislative action these initiatives shall be worked in concert with Legislative Affairs and the General Counsel and follow established Executive Branch processes.

6.3. DoD Policy. Policy resources include DoD Directives and Instructions, Directive Type Memoranda and policy memos and senior level governing bodies such as the T2 Executive Steering Group, Deputy's Advisory Working Group, the Senior Readiness Oversight Council and the Joint Requirements Oversight Council.

6.4. Fiscal Guidance and Management. Fiscal guidance and strategic resource management provide a powerful set of resources to accomplish the focus areas in Sections 4 and 5. The Office of the Deputy Under Secretary of Defense for Readiness, as the Executive Agent for Training Transformation, is responsible for issuing both fiscal guidance (in conjunction with the Office of the Under Secretary of Defense (OUSD) (Comptroller) and strategic resource management guidance. Actions here include:

6.4.1. Leveraging and harmonizing Service, CCDR training and exercise, and CCDR Initiative Fund investments to achieve joint and integrated training unity of effort.

6.4.2. Guiding execution of Congressional adds to achieve joint and integrated training requirements across the federated T2 Enterprise.

6.4.3. Leveraging and complementing other Federal agency investments to achieve integrated training unity of effort. This includes partnering and supporting before Congress the integrated training needs of other Federal agencies.

6.4.4. Exercising to the fullest extent mechanisms afforded by the Planning, Programming, Budget, and Execution System.

6.4.5. Aggressively pursuing funding through the DoD Unfunded Requirements Process.

6.4.6. Leveraging OUSD (Acquisition, Technology, and Logistics) demonstration funding to stimulate technological advancements in support of federated training enterprise requirements.

6.4.7. Leveraging and focusing Modeling and Simulation Coordination Office resources in support of federated training enterprise requirements.

6.5. Training Environment Infrastructure. This resource consists of the physical and soft²⁰ infrastructure which supports the federated training enterprise. Specific classes include:

- Live Training Ranges (land, air and maritime) to include supporting training capabilities such as instrumentation, electronic warfare assets, targets, urban training facilities, communication backbones, and scoring and feedback.
- Simulation centers.
- Advanced Distributed Learning capabilities which include, the Sharable Content Object Reference Model-compliant course content development, hosting and networking infrastructure and end user interfaces.
- Virtual training capabilities to include virtual training devices and the virtual training environment.
- GIG to include the semantic web, training ontologies, communication and networking infrastructure, storage and server devices and system-oriented architecture schemes.
- Constructive software.
- An integrated live, virtual, and constructive DoD training environment
- Service institutional training schools

6.6. Partnerships. Given the limited resources available to the federated training enterprise, this plan calls for partnering with a host of stakeholders to include:

- Test and Evaluation community
- Multinational
- Academia
- Industry
- Interagency
- State/local
- Private volunteer organizations
- Non-governmental organizations

²⁰ Soft infrastructure consists of software such as operating systems, applications, models, simulations and other digital media.

APPENDIX 1

DEFINITIONS

Common training. Training that is not unique to a particular DoD Component and in many cases is conducted by or participated in across the DoD Components as a whole. Specifically, training that has no special distinction or quality linking it to an individual DoD Component and is widely required or commonly encountered.

Ends. The desired outcome.

Education. Education conveys general bodies of knowledge and develops habits of mind applicable to a broad spectrum of endeavors. As viewed through the prism of "Learning Domains", education is largely defined through the cognitive domain and fosters breadth of view, diverse perspectives, critical analysis, abstract reasoning, comfort with ambiguity and uncertainty, and innovative thinking, particularly with respect to complex, non-linear problems.

Federated. For the purpose of this document, federated represents the harmonized interests of the various departments within the DoD and the U.S. government as appropriate to the training enterprise.

Global Information Grid. The globally interconnected, end-to-end set of information capabilities, associated processes and personnel for collecting, processing, storing, disseminating, and managing information on demand to warfighters, policy makers, and support personnel. The Global Information Grid includes owned and leased communications and computing systems and services, software (including applications), data, security services, other associated services and National Security Systems.

Hybrid threats. Warfare in which the adversary will most likely present unique combinational threats, including irregular tactics and modern, state-like weapons and capabilities, specifically targeting U.S. vulnerabilities.

Immersive. Those aspects of the training milieu that insert the trainee into an environment, consisting of some combination of live, virtual and/or constructive training capabilities, that reinforces the concept at hand through stimulation of more than one sensory capacity.

Individual augmentee. An unfunded, temporary duty position augmenting headquarters operations during contingencies.

"In-Lieu-of" training. Training driven by a sourcing requirement to perform missions outside of traditionally assigned roles and functions for a Service; an operational requirement outside the normal scope of duties for an individual, unit, or staff when there is no organic Service capability to fulfill the requirement; or, a training venue offered by another DoD Component that meets a sourcing requirement.

Integrated capabilities. The aggregated and harmonized capabilities of the U.S. Military, in conjunction with capabilities provided by other U.S. government (Federal, State, and local), non-government organizations, private voluntary organizations, industry, academia, and multinational partners in support of integrated operations.

Integrated operations. The synchronization, coordination, and/or integration of DoD and other U.S. Government agencies activities, in coordination with partner nations, and non-governmental entities across the full range of military operations, which achieves a comprehensive approach that advances U.S. Government goals and objectives.

Integrated training. Training supporting integrated operations. It includes joint training and training conducted by or with partner organizations, but focuses on the processes and requirements enabling a comprehensive approach for successful joint operations in conjunction with other organizations outside the DoD.

Irregular warfare. A violent struggle among state and non-state actors for legitimacy and influence over the relevant populations. Irregular warfare favors indirect and asymmetric approaches, though it may employ the full range of military and other capabilities, in order to erode an adversary's power, influence, and will.

Joint operations. A general term to describe military actions conducted by joint forces or by Service forces in relationships (e.g., support, coordinating authority), which, of themselves, do not establish joint forces.

Joint Professional Military Education (JPME). A CJCS-approved body of objectives, outcomes, policies, procedures and standards supporting the educational requirements for joint officer management.

Joint training. Training, including mission rehearsals, of individuals, units, and staffs (civilian or military) using joint doctrine or joint tactics, techniques, and procedures to prepare joint forces or joint staffs to respond to strategic, operational, or tactical requirements considered necessary by the CCDRs to execute their assigned or anticipated missions.

Means. Methods, processes and tools the organization uses to achieve desired ends.

Title 10 training. Core training conducted by Services under the auspices of Title 10, U.S. Code, direction to organize, train, and equip forces.

Traditional warfare. State sponsored warfare including major combat operations across the range of military operations against opponent conventional forces, national infrastructure (public and private), and possibly, resident population.

Training. A learning process that involves the acquisition of knowledge, sharpening of skills, concepts and rules, or changing of attitudes and behaviors to enhance performance.

Training development. A means to identify shortfalls and lead the development,

improvement and integration of the joint training environment to enable trained, capable, and interoperable joint forces in order to meet future and present operational needs.

Training enterprise. The enterprise is comprised of representatives from OSD, Joint Staff, all combatant commands, Services, policy and acquisition agencies, non-governmental agencies and other U.S. Government agencies within other agencies community that directly or indirectly support, receive, or influence activities designed to enhance the individual and collective training, capabilities, and interoperability of joint and integrated forces.

Unity of effort. Activity where each participating entity and/or organization brings capabilities and resources, defines mutual benefit, and acts in a collaborative, interdependent manner without controlling leadership.

Ways. The resources used to accomplish desired ends.

Whole of government. For the purpose of this strategic plan, whole of government denotes public service agencies, Federal, State and Local, working across portfolio boundaries to achieve a shared goal and an integrated government response to particular issues. Approaches can be formal and informal. They can focus on policy development, program management and service delivery.

Whole of nation. For the purpose of this strategic plan, whole of nation denotes public (whole of government) and private service agencies working across portfolio boundaries to achieve a shared goal and an integrated government response to particular issues. Approaches can be formal and informal. They can focus on policy development, program management and service delivery. They can transcend national borders.

ANNEX A

T2 TRAINING INVESTMENT GUIDANCE

The following investment guidance should be utilized to construct T2 training investment planning and resource allocation to enable adaptive training programs. This guidance is intended to capture and consolidate guidance from key sources to convey a clear image of investment targets and is based upon DoD Strategic guidance to include this document.

It is not expected that complete resolution of the guidance will occur within the FYDP. The guidance is in priority order, but it is not required that all investment decisions sequentially address the Top Ten list in numerical sequence. DoD Components are, however, required to analyze the operational, technical and fiscal feasibility of addressing the areas outlined in the guidance.

1.0. TOP-LEVEL GUIDANCE.

Priority should be given to training and experimentation capabilities that are forward looking, address integrated operations and irregular warfare, and focus on key learning capabilities which improve skills in adaptability, agility, anticipation of the adversary, foreign language, cultural insights, empathy, social skills and negotiation.

- 1.1.** Training should assist in integrating the total force, to include training of reserve component units before mobilization and DoD civilians.
- 1.2.** Training activities must balance across full spectrum operations.
- 1.3.** DoD policy requires directed investment in the functional areas specified below to lower the general risk to the United States of threats directly or indirectly associated with them:
 - Homeland defense/civil support exercises
 - Catastrophic consequence management (CBRNE, US natural disasters)
 - Combating WMD training
 - Irregular warfare training
 - Cyberspace
 - Stability, security, transition, and reconstruction operations training
 - Human intelligence, language, and culture training
 - Training forces to conduct indigenous force training
 - Soft skills training
 - Special Operations Forces (SOF) conventional interoperability training
 - Information operations training

- Adaptive planning training
- Resourcing CCDRs (JTF certification, staff, component, battlestaff training)
- Intelligence integration training
- Urban operations training
- Integrated operations training
- Security cooperation/engagement

1.4. Joint training should leverage interdependencies among the Services, combatant commands, agencies, industry, the test and evaluation community, and academia to develop training and education capabilities that are agile, net-centric, adaptive, interoperable, persistent, and robust.

2.0. TRAINING TOP TEN

The following comprise the ten most urgent, as collaboratively determined, areas of training development and improvement:

2.1. Prioritize and invest in key recommendations from the following functional training studies: information operations, joint urban operations, asymmetric warfare, integrated operations, mountain and cold weather warfare, and irregular warfare. Implementation strategies should include:

2.1.1. Support to DoD, including civilians, interagency, intergovernmental and multinational collaborative capability to conduct mission rehearsal and operational planning.

2.1.2. Develop new or modified joint tasks and associated joint training requirements that capture or better articulate the joint training tasks associated with these functional areas. Include security force assistance in this development effort.

2.1.3. Establish a capability to identify and address critical joint gaps and seams associated with operations in these functional areas.

2.1.4. Increase information operations training; facilitate integration of whole-of-government participation, including DoD civilians, in DoD training, exercises and experimentation activities; and, integrate intelligence, surveillance, and reconnaissance (ISR) training capabilities at the tactical level.

2.1.5. Ensure the training capability supports robust, realistic training in these functional areas through all phases of a joint campaign.

2.2. Develop a capability to train on the network of joint and national command and control systems, communication systems and ISR systems accessible by commanders at strategic through tactical levels by leveraging ongoing efforts in the operational community. Focus on command and control systems, communication systems and ISR systems that support homeland defense, irregular warfare and stability operations:

2.2.1. Fuse individual and collective training and employment of these systems in operations, intelligence, and planning functional areas across tactical, operational and strategic levels of war.

2.3. Support development of an individual and collective training capability that exercises homeland defense and civil support mission areas to include, the protection and defense of critical DoD physical and cyber infrastructure, defense support of civil authorities, and countering and recovering from WMD attacks and countering WMDs outside of the United States.

2.4. Develop capabilities for supporting combatant, JTF, and functional component commander and staff individual and collective joint training requirements. Build a training capability that supports combatant command, Standing Joint Force Headquarters (SJFHQ)-Core Element and Service concepts for establishing and employing component headquarters (HQ) as JTF HQs and/or functional component command HQ, including interfaces with multinational forces, interagency, intergovernmental, and non-governmental organizations. Train to degraded or denied operations, particularly the loss of cyber capabilities.

2.5. Develop an individual and collective training capability which enhances Special Operations Forces (SOF) and general-purpose force (GPF) interoperability by expanding SOF-GPF²¹ exercise integration and leveraging existing training capabilities to improve the GPF's ability to conduct irregular warfare, civil affairs and psychological operations. Focus areas include:

- Psychological operations (PSYOP)
- Civil affairs
- Irregular warfare
- Security force assistance
- Strategic communication
- Special reconnaissance
- SOF operations with indigenous forces operations

²¹ Requires coordination with and approval of the Commander, United States Special Operations Command.

- Governance skills
- Pre-deployment cultural and language familiarization
- Counterterrorism
- Time sensitive targeting
- Joint fires integration
- Joint personnel recovery

2.6. Maximize training realism by investing in the following live, virtual and constructive (LVC) areas:

2.6.1. Develop and promulgate a set of standardized interfaces to integrate emerging Service advanced instrumentation and simulation systems across the LVC domains in the operating environments of air, ground, maritime and cyberspace.

2.6.2. Increased augmentation of the live environment with synthetic entities and synthetically generated data, inherently increasing the interaction and realistic interoperation among participants in different LVC domains.

2.6.3. Reduction of LVC integration artificialities, particularly procedures that call for “segregation” to deconflict simultaneous LVC exercise operations.

2.6.4. Improvement of automated weapon scoring simulations and processes to provide real time casualty assessment and kill removal. Particular focus is needed for air-ground interactions and maritime operations.

2.6.5. Automation of ground truth (data) collection and timely generation / distribution of after action review and debrief products to the joint training audience to support near real time feedback and to support Doctrine, Organization, Training, Material, Leadership, Personnel and Facilities analysis and change.

2.6.6. Eliminate unnecessary virtual and constructive training and education capabilities that support traditional force-on-force operations.

2.6.7. Improve capabilities to rapidly generate scenarios and other exercise planning functions. Build a “bench” of actual scenarios/vignettes designed specifically to train everything from COCOM Exercises down to cognitive-based decision making at the small team level. These scenarios must be varied, nuanced and with human behavioral characteristics and near-real quality.

2.6.8. Simulate civilian political response (foreign and domestic) to military actions (Military Assistance to Civil Authorities and Defense).

2.7. Develop a capability to train in a multi-level security environment by leveraging ongoing efforts in the operational community. This includes anti-tamper, intrusion detection and network segmentation or fire walling capabilities. It must permit an exchange of training scenario and control information and intelligence across all friendly echelons including multinational, interagency, intergovernmental, non-governmental organizations partners. It must also include support to operational rehearsals, as well as the core-training environment.

2.7.1. Identify which issues require policy, technical and training resolution and assign action for each accordingly.

2.7.2. Resolve security related training infrastructure shortfalls to enable effective, secure training in a special technical operations environment.

2.7.3. Develop joint implementation plans that coordinate disparate, individual Service activities that ensure an integrated / coherent departmental security solution to training security requirements.

2.8. Build a capability for individual and collective training on the employment of a logistics common operational picture, and employment of a robust communications infrastructure, that provides a distributed, adaptive logistics system for sustainment of the full range of military operations across all phases of a joint campaign plan.

2.9. Develop capabilities for individual and collective training that support evolving fratricide prevention measures and combat identification tactics, techniques and procedures.

2.10. Expand Joint National Training Capability (JNTC) activity and communication infrastructure to overseas locations, supporting deployable and fixed / expeditionary site capabilities.

3.0. GUIDANCE FOR T2 COMPONENTS.

3.1. Joint Knowledge Development and Distribution Capability (JKDDC).

To enable the T2 strategy, JKDDC shall invest in and expand the distributed learning capability in concert with DoD training objectives for a technologically forward, agile, globally accessible, 24/7 training capability supporting the learning continuum. JKDDC shall:

3.1.1. Explore concepts such as on-line gaming (individual and multi-player), virtual worlds, remote, real-time knowledge on the battlefield and other cutting-edge knowledge technologies for JKDDC application.

3.1.2. Collaborate with other components of the T2 enterprise to ensure complete integration and unity of effort. Develop a capability to support the Chairman's and CCDRs' exercise programs and JNTC with individual academic training prior to conduct of the exercise or training.

3.1.3. Develop a quick reaction capability to support individual augmentation training; building the capability to rapidly incorporate changes to doctrine, tactics, techniques and procedures derived from lessons learned; and proactively leveraging USJFCOM's Joint Center for Operational Analysis, the intelligence community for lessons "anticipated" and applicable Service and joint lessons learned resources.

3.1.4. Increase training and education in foreign language, empathy, cultural knowledge, cross culture negotiations, regional awareness, advising and mentoring capabilities.

3.1.5. Continue to develop and distribute searchable content object reference module (SCORM) conformant courseware developed to fulfill Service and CCDR identified training support requirements.

3.1.6. Support, integrate, and incorporate DoD requirements into JKDDC joint task training support for the Intelligence Community, interagency, intergovernmental and multinational communities.

3.1.7. Participate with JNTC in the development of a Joint Training Roadmap and Investment Strategy (JTRIS), which will support the Combatant Commanders Exercise Engagement and Training Transformation (CE2T2) Program Objective Memoranda (POM).

3.2. Joint National Training Capability (JNTC).

To enable the T2 Strategy, the JNTC program shall:

3.2.1. Collaborate with other components of T2 to ensure complete integration and unity of effort.

3.2.2. Further develop total force preparation training capabilities in the areas of information operations, whole-of-government/nations operations, ISR integration, Homeland Defense/Defense Support of Civil Authorities, SOF-GPF, irregular warfare, integrated operations, degraded cyber operations, and foreign language and cultural knowledge.

3.2.3. Develop a security plan and cross-domain solution (CDS) set that leverages operational investments while providing a timely, coherent DoD-wide solution including multiple independent levels of security and CDS rule sets that are consistent with the rest of the DoD.

3.2.4. Develop and enforce LVC open net-centric interoperability standards and architectures for training and exercise activities that directly support the execution of Service and defense agency training and the joint training support requirements of CCDRs and subordinate joint force commanders.

3.2.5. Maximize JNTC accredited programs and organizations to execute accredited joint tasks consistent with mission training objectives within rotations they conduct to optimize training audience exposure to joint operations.

3.2.6. Increase integrated operations training opportunities. Support the routine accomplishment of integrated training by Service, CCDR and combat support agency training organizations (program-centric²² construct).

3.2.7. Increase the quality and timeliness of Service pre-deployment exercises and mission rehearsals that incorporate direct participation from other Service and Agency units they will be operating with in theater to include deploying civilians, and Reserve and Guard units. At a minimum, attempt to incorporate participation from other Service units that have similar capabilities to those that they will be serving with in theater.

3.2.8. Improve JNTC's capability to rapidly incorporate changes in doctrine, tactics, techniques and procedures derived from lessons learned. Move from a reactive, request for information lessons learned construct, to one that is proactive and actively pushes information to those who need it. Proactively leverage Service lessons learned capabilities to capture tactical level joint lessons and engage in the development of Lessons Anticipated.

3.2.9. Continue to improve capabilities to rapidly generate scenarios.

3.2.10. Continue to maximize utilization of existing government networks to the extent possible.

²² Program centric is the JNTC concept of distributing joint training capability to the Services and combatant commands through their established training programs and training pipelines, providing the necessary resources (personnel, funding, and in-kind capabilities) to properly integrate joint training into their program, and providing for initial and periodic confirmation that the program is compliant with joint training objectives.

3.2.11. Continue to evolve toward the right mix of live, virtual and constructive capabilities in support of realistic and relevant training anywhere anytime.

3.2.12. Support accredited training programs sponsoring mission readiness exercises, service major training events, and CCDR exercises, conducted to maximize training audience exposure to joint operations. The priorities for JNTC-supported training are:

- (1) Mission rehearsal and service/joint training that prepares deploying forces for operations at the tactical, operational and strategic levels of war.
- (2) Joint training that supports CCDR's operations plans in accordance with the Guidance for Employment of the Force (GEF) priorities.
- (3) Proficiency training that supports the accomplishment of joint task operations to the point that they become habitual.

3.2.13. For CCDR JTF training, implement the principles associated with training to operate in a future operating environment as described in *The Joint Operating Environment* (JOE).²³ This will help drive scenario realism and engender adaptability and optimization of capabilities to achieve mission objectives.

3.2.14. Integrate SOF capabilities into appropriate JNTC-supported training where consistent with the training requirements and objectives.

3.2.15. Evolve and sustain the Joint Training and Experimentation Network (JTEN) to establish and maintain persistent, global communications leveraging existing networks. JNTC will strive to transition JTEN to Defense Information System Agency (DISA), permitting JNTC to concentrate on its core competency of training. DISA will manage the JTEN like a service similar to SIPR and NIPR.

3.2.16. Work collaboratively with the Joint Mission Environment Test Capability (JMTC) and Information Operations Range to develop solutions to common requirements and to leverage activities associated with testing in a Joint Environment Roadmap to further develop realistic joint mission environments and a persistent connectivity and interoperability between training and test ranges, instrumentation, and models.

²³ U.S. Joint Forces Command, *The Joint Operating Environment* 2008, Norfolk, VA, 25Nov08.

3.2.17. Support and integrate DoD civilians and the interagency, intergovernmental and multinational communities training requirements into JNTC supported integrated training.

3.2.18. Develop in coordination with the other T2 components, a JTRIS, which will support the CE2T2 POM.

3.3. Combatant Commanders Exercise and Engagement (CE2) Stakeholder Leadership Team shall:

3.3.1. Collaborate with other components of T2 to ensure complete integration and unity of effort.

3.3.2. Support CCDR training, exercise and engagement programs.

3.3.3. Support the fielding of the JTS Specialists (among others to include Joint Interagency Training Specialists, Joint Lessons Learned (Program) Specialist), and JNTC Support Element to CCDR training organizations and the National Guard Bureau.

3.3.4. Implement the principles associated with training in a tactical, operational and strategic theater, and strategic national level common operating environment which will help drive scenario realism, and engender adaptability and optimization of capabilities to achieve mission objectives.

3.3.5. Improve CCDR's capability to rapidly incorporate changes in joint doctrine and tactical, operational, strategic theater, and strategic national joint lessons learned into joint training.

3.3.6. Integrate SOF capabilities into appropriate CCDR joint training.

3.3.7. Support and integrate the DoD civilians, interagency, intergovernmental, and multinational communities training requirements into CCDR joint training and exercises.

3.3.8. Use the JTEN to establish and maintain persistent, global communications for purposes of CCDR training programs.

3.3.9. Participate with JNTC in the development of a JTRIS, which will support the CE2T2 POM.

3.3.10. Address key exercise support and engagement capability gaps for CCDRs to include promotion of security and stability, building of military-to-military partnerships and supporting regional development.

3.4. Joint Assessment and Enabling Capability (JAEC).

JAEC is intrinsically linked to the operative training components, as well as the entire joint training community. Through assessments integrated with program performance and investment, JAEC will examine training capabilities, the instantiation of T2 integration, the joint training management process, and the effects of joint training and education. Objectives for JAEC include measuring the efficacy of T2 investments, the synchronization of T2 with the transformation of the total force and warfighting capabilities, and the application of training “enablers” driven by the Joint Operational Environment. Assessments will focus on portfolio management; specifically, how resources are allocated against training, experimentation and education capabilities deemed redundant, non-interoperable, and not supporting high priority competencies in the areas described above. JAEC will also enable best-practice sharing, rapid spiral development, and joint ventures between organizations. The JAEC office will use its inherent analysis capability to provide T2 decision support. JAEC shall collaborate with DoD Component training functionals to ensure complete integration and unity of effort. To enable the strategic plan, the JAEC shall:

- 3.4.1.** Collaborate with the joint training and education community, civilian training community and other T2 components to enhance integration and unity of effort.
- 3.4.2.** Collaboratively develop metrics to address the T2 Program goals.
- 3.4.3.** Fully develop and integrate current and emerging training assessment activities with the DRRS and Service personnel systems and leverage information in the JTMS. Training-related assessment serves as the basis for determining performance-based readiness and must be fully integrated with DRRS development.
- 3.4.4.** Enhance efforts to track joint training, education and experience of DoD individuals and to assess the data in relation to mission requirements.
- 3.4.5.** Participate with JNTC in the development of a JTRIS, which will support the CE2T2 POM
- 3.4.6.** Conduct assessments focusing on:
 - (1) Synchronization of pre-deployment training to improve readiness of deploying forces and accompanying civilians.
 - (2) Incorporation of other Service assets or capabilities in training events and exercises.
 - (3) Interagency participation in DoD training events, as part of the training audience, where a government agency's presence is required by the operational environment.

- (4) Relevancy of CE2T2 investments and capabilities by requiring all investments to have quantitative or qualitative measures linked to operational commander mission capability or training support requirements and theater campaign plans. Assess the effect of those measures against the specified outcome post-investment.
- (5) How well T2 is enabling the readiness of our joint forces, including civilians, to meet operational requirements.
- (6) How well T2 is effectively enabling the continuous, capabilities-based transformation of the Department of Defense.

3.4.7. Support OUSD (P&R) in collecting, compiling and analyzing data for the quarterly balanced scorecard and other systemic analysis efforts within OSD.

3.5. T2 components and their respective constituents will develop an informed, collaboratively developed Joint Training Roadmap and Investment Strategy that maximizes accomplishment of the guidance within fiscal constraints. Each investment shall be cross-referenced to the guidance it addresses or facilitates.

ANNEX B

TAKING THE ADAPTIVE STANCE AND THE ADAPTATION FRAMEWORK

Given the uncertainty of the future operating environment, the nature of the operations we are currently engaged in and an upcoming period of constrained fiscal resources, the CCJO and others are calling for a renewed focus on the development of the DoD's human capital. One of the areas that will produce high return is training focused on enabling our forces to take an "Adaptive Stance" to complex decision making.

The Adaptive Stance is an attempt to operationalize the imperative to be adaptive and to embed it in a familiar military context, where the many existing strengths of military thought can be acknowledged and built upon, and new ideas can be understood in relation to them.

The Adaptive Stance represents a convergence of thinking from two very different origins – one is the detailed conceptual understanding of adaptation sketched out here, and the other is several decades of empirically-based and theoretically-grounded work on complex decision-making by Professor Dietrich Dörner at the University of Bamberg in Germany.

The Adaptive Stance is an intellectual stance that creates the preconditions for being adaptive for individuals, teams, and larger groups throughout an organization such as a defense force. In a very important sense, the Adaptive Stance is the necessary complement of Mission Command. What we mean by this is that it both depends on, and is essential for, Mission Command. Neither will work without the other. Mission Command describes how orders should be given to enable those on the receiving end to use their capabilities, initiative, and local knowledge to advance command intent. Conversely, the Adaptive Stance describes how Mission Command should be received and how to make the best use of the autonomy and responsibility it confers.

For more information on the Adaptive Stance and Adaptation Framework See:
"Conceptual Framework for Adaptation," The Technical Cooperation Program Technical Report Action Group (AG) -14, Complex Adaptive Systems (CFA) #3-2010, Australia - Canada - New Zealand - United Kingdom - United States of America.

EXECUTIVE SUMMARY OF THE CONCEPTUAL FRAMEWORK FOR ADAPTATION

1. At the action‘ level,

- “*creating a more contextually appropriate series of adaptive actions in the world, but within the constraints of existing sense, process and act capabilities*” [generally our first response to a new condition requiring adaptation.]

2. At the learning system‘ level

- “*using adaptation to expand sense, process and act capabilities in useful ways*” [used to get a better understanding of what is needed and assessing our Level 1 response. In this level we develop measures (actual or proxy) which help us improve our “sensing” of the environment and provide feedback on whether our Level 1 response is succeeding or failing.]

3. At the learning-to-learn‘ level

- “*using adaptation on the learning mechanisms themselves and thus improving the way in which adaptive actions are produced.*” [In this Level we assess both our Level 1 and 2 adaptive mechanisms. Here we reexamine whether our response is to producing success and failure. At this level we dig deeper into the assessment process by examining whether the actual or proxy measures we are using are the correct ones. In other words, we are looking for cues that indicate we may be getting a “false positive” (success) or a “false negative” (failure) because the measures we are using are not the right ones. To do this we are looking for ambiguity between measures that should produce the same assessments. We then ask ourselves is this ambiguity due to the fact that we are using the wrong measures? To answer this question we reexamine our measures and “learn” how to develop measures which produce correct assessments/reduce the ambiguity. We then adjust our adaptive response to achieve the desired outcome based on these new measures.]

4. At the defining success‘ level

- “*applying adaptation to the difficult problem of articulating sufficiently precise and actionable measures of success themselves, (in order to achieve this it will be necessary to have access to some more accurate measures of success - usually only available in slow time and in retrospect).*” [The first three levels define actions that happen concurrently and rather quickly (relatively) through an action-assess-adjust measures/action approach. However, most situations requiring adaptation are complex and our initial cycles through Levels 1-3 will probably not produce very effective results early in the process. But slowly as we cycle through Levels 1-3 we will get closer to the right measures and the long term desired outcome. However, to truly know what the right measures are and whether we are actually achieving success will involve the use of hindsight or retrospection. This retrospective process defines the 4th level of adaptation.]

5. At the co-adaptation‘ level

- “*addressing the interactions between multiple adaptive mechanisms and applying adaptation to the parameters describing the distribution of roles, resources, authorities and responsibilities between them*
- *Co-adapting our own systems-of-systems.*
- *Anticipating and exploiting the adaptive responses of others’ systems*” [This is technically not a level, but up until this point, Levels 1-4 have focused on examining a single system. In reality the world is a

system of systems (SoS). Therefore the adaptation process must also look outside the system being addressed and understand how that system reacts with other systems. Additionally, as we make changes to a single system, there will be a corresponding change in environment, which compounds the system of system analysis. Understanding, accounting for and leveraging the system of system responses constitutes the 5th level of adaptation.]